# Contents

Preface xi

Committees xii

Contents xiii

**Opening lecture**

*Paper presented at the Conference, but not published in these Proceedings*

Wurm, D.
Magnetic materials research and development sponsored by the European Communities

**Chapter 1. Amorphous and nanocrystalline magnetic materials**

Kraus, L., P. Duhaj and S. Bode
Creep-induced magnetic anisotropy of amorphous $Fe_{80}B_{20-x}Si_x$ alloys 1

De Boer, F.R., P. Kossacki, R. Puźniak, T. Stobiecki, H. Szymczak and X.P. Zhong
High field susceptibility of Co-based amorphous ferromagnets 3

Hernando, A., M. Vázquez, G. Rivero and J.M. Barandiarán
Amorphous soft magnetic materials: magnetostriction and induced anisotropies (*Invited paper*) 6

Takahashi, M. and T. Shimatsu
Soft magnetism of nanocrystalline Fe based sputtered films with high $B_s$ (*Invited paper*) 11

Siemko, A., H.K. Lachowicz and A. Ślawska-Waniewska
Stress-anneal-induced anisotropy in metallic glasses 16

Horvat, J.
Reduction of loss using the pinning inhomogeneity in Co-based amorphous ribbons 19

Kaczkowski, Z. and M. Müller
Dependence of elasticity moduli on magnetic bias field of the $Fe_{73.5}Cu_1Nb_3Si_{16.5}B_6$ alloy before nanocrystallization 21

Kaczkowski, Z. and P. Duhaj
Elasticity moduli dependences on magnetic field for $Fe_{80.2}Cr_2Si_{3.8}B_{14}$ metallic glass 23

Kaczkowski, Z., E. Kisdi-Koszó and L. Potocký
Influence of the casting in magnetic field and of annealing history on the magnetomechanical coupling in the $Fe_{79}Cr_{6.6}B_{14.4}$ metallic glass 25

Kaczkowski, Z.
Influence of annealing near the crystallization temperature on magnetomechanical coupling in Fe–Ni–B–P metallic glass 27

Fraitová, D. and Z. Frait
Characterization of amorphous and nanocrystalline ferromagnets by ferromagnetic resonance and antiresonance 29

Czarnecki, P., B. Idzikowski and A. Wrzeciono
Transport properties of $R_xCo_{70-x}B_{30}$ and $R_xFe_{80-x}B_{20}$ amorphous alloys 32

Blanco, J.M., J. González, M. Vázquez, J.M. Barandiarán and A. Hernando
Measurement of magnetostriction and induced magnetic anisotropy by SAMR method in Co-rich stress + field annealed amorphous ribbons 35

Welzel-Gerth, S., B. Franz. H.W. Gronert and E.F. Wassermann
Magnon contributions to low-temperature thermal conductivity of amorphous ferromagnets 37

Slawska-Waniewska, A., A. Siemko, J. Fink-Finowicki, L. Załuski and H.K. Lachowicz
Some aspects of simultaneous stress- and field-annealing of metallic glasses 40

Teillet, J., H. Lassri and R. Krishnan
Mössbauer study of amorphous $Fe_{65}Gd_{15}B_{12}Si_8$ ribbons 43

Hanson, M. and C. Johansson
Interaction effects in the dynamic response of magnetic liquids 45

Atalay, S. and P.T. Squire
Field-dependent shear modulus and internal friction in annealed iron-based amorphous wires 47

Allia, P., C. Beatrice, G. Brida and F. Vinai
Permeability relaxation at constant magnetic induction in amorphous ferromagnets 49

Fernández Barquín, L., J. Rodríguez Fernández, J.C. Gómez Sal, J. Gutiérrez and J.M. Barandiarán
Study of the low-temperature resistivity behavior in Co–Si–B metallic glasses: magnetic and neutron diffraction characterization 52

Hesske, R.R. and S. Roth
A method for short-time annealing of amorphous tape wound cores 55

Hesske, R.R. and S. Roth
Short time annealing of amorphous FeBSi-alloys with additions 57

Morón, C., M.C. Sánchez, E. López, P. Sánchez and C. Aroca
Effect of high-current flash annealing on amorphous samples 59

*Papers presented at the Conference, but not published in these Proceedings*

Zaveta, K.
Domain structure and magnetic properties of magnetically soft nanocrystalline materials

Skorvanek, I. and M. Miglierini
The Mössbauer study of structurally modified FeNiCrMoSiB-type amorphous alloys

Bozukov, L., A. Apostolov, N. Bakalchev and H. Sassik
Magnetic properties of amorphous $Er_4Al_3$ and $Er_4Mn_3$ alloys

Müller, M., L. Illgen, H. Grahl and M. Barth
Influence of the composition on the magnetic properties of nanocrystalline FeBSi/CuNb-alloys

**Chapter 2. Soft magnetic materials and their application; magnetization process in soft magnetic materials; magnetic sensors, materials and devices**

Soinski, M., E. Hobson and A. Baghurst
Chemically bonded amorphous ribbons for stacked-cores 62

Arnaudas, J.I., A. del Moral, P.A.J. de Groot and B.D. Rainford
Magnetic scaling and magnetoelastic properties of amorphous $(Gd_{1-x}Tb_x)_2Cu$ 65

Baum, E. and J. Bork
Systematic design of magnetic shields (*Invited paper*) 69

Greenough, R.D., A.G.I. Jenner, M.P. Schulze and A.J. Wilkinson
The properties and applications of magnetostrictive rare-earth compounds (*Invited paper*) 75

Hoppe, J. and R. Tzscheutschler
A technology for the production of stratified magnetic bodies from amorphous magnetic materials 81

Ibarrondo, I., J. San Juán and J. González
Study of the incidence of the last annealing on the magnetic characteristics of high silicon (6.0–6.5%) crystalline ribbons directly obtained from the melted state by rapid quenching 83

Schönhuber, P. and H. Pfützner
Flux distribution analysis in a mitred transformer core corner 86

Durin, G., M. Bonaldi, M. Cerdonio, R. Tommasini and S. Vitale
Magnetic viscosity of Co-based amorphous alloys between 0.02 and 4.2 K 89

Cerdonio, M., P. Falferi, R. Macchietto, G.A. Prodi and S. Vitale
Low frequency behaviour of soft ferromagnets at liquid helium temperature 92

Schaefer, M., G. Dietzmann and H. Wirth
Magnetic losses in ferrites and nanocrystalline ribbons for power applications 95

Stefański, P., A. Kowalczyk and A. Wrzeciono
The spin reorientation transitions in $ErFe_{10}T_2$ (T = Cr, Si) compounds 97

Klugmann, E. and H.J. Blythe
Atomic and magnetic ordering in CoPt alloys studied by magnetic and internal friction measurements 99

Sláma, J., A. Grusková, E. Ušák and V. Jančárik
Supplementary domains variation in stack of sheets 102

Jirsa, M., L. Půst and J. Kadlecová
Flux creep in YBaCuO single crystal observed on hysteresis loops and magnetic moment time relaxation 105

Schumann, H.-D., W. Tirschler, H. Sacher and U. Seelig
Ferromagnetic domain patterns of Ni and Fe polycrystals in the course of the magnetic hysteresis loop 107

Sólyom, A., A. Zentko, O. Schneeweiss, G. Konczos, I. Škorvánek and P. Marko
FeSi microcrystalline alloys prepared by single and double roller methods 109

Algarabel, P.A., C. Marquina, M.R. Ibarra, A. del Moral, M. Solzi, G. Marusi and L. Pareti
A study of the spin reorientation transitions in $(Er_xHo_{1-x})Fe_{10}V_2$ intermetallics 111

Degauque, J., M. Fagot, J. Bras, D. Bouchara and Y. Gannac
Purity influence on the magnetic properties of Fe–6.5 wt% Si melt-spun ribbons 114

Wolf, M. and K.-H. Müller
Magnetostrictive behaviour of multiphase materials 117

Carmona, F., J.M. Gonzalez, A. Martin, V.E. Martin and A. Garcia-Escorial
Thermomagnetic behaviour of mechanically alloyed Fe–Si 119

Biénkowski, A. and J. Kulikowski
Effect of stresses on the magnetostriction of Ni–Zn(Co) ferrites 122

Biénkowski, A.
Some effects of stresses in Ni–Zn ferrites containing cobalt 125

Wieting, J., E.M. Herbst, S. Mager, A. Stahnke, S. Moldenhauer, J. Tobisch, H.-J. Ullrich, F. Friedel and J. Bauch
Anomalous grain growth and texture formation in alloyed electrical sheets 128

Murakhowski, A.A., W.N. Gorbacz and J.H. Hankiewicz
Spin reorientation in $Co_{1.5}Ni_{0.5}Sr$–W hexagonal ferrite 131

Hankiewicz, J.H., Z. Pająk and A.A. Murakhowski
Nuclear magnetic resonance in $Ba_3Co_2Fe_{24}O_{41}$ ferrite 134

Nikolov, J., I. Dragieva, G. Georgiev and D. Angelov
Monocrystal Mn–Zn ferrite and its application in magnetic heads 137

*Papers presented at the Conference, but not published in these Proceedings*

Zawadzki, J., Do Hung Manh and M. Slepronowski
Domain wall energies in $Nd_xY_{2-x}Fe_{14}B$ compounds

Geshev, J. and M. Mikhov
The Hopkinson effect in three- and four-axial magnetic particles

Maziewski, A.
Magnetic after-effect in a magnet with domain structure stabilization

Kulikowski, J. and A. Bienkowski
Field and temperature dependence of magnetostriction in Ni–Zn(Co) ferrites

**Chapter 3. Magnetic semiconductors and magnetic insulators and their application; microwave materials and application**

Hoffmann, M., O. von Geisau, S.A. Nikitov and J. Pelzl
3D-imaging of magnetostatic modes using photothermally modulated FMR-technique 140

Visser, E.G. and M.T. Johnson
A novel interpretation of the complex permeability in polycrystalline ferrites (*Invited paper*) 143

Groń, T., J. Krok-Kowalski, M. Kurzawa and J. Walczak
Electrical conductivity in the antiferromagnetic compounds $FeVO_4$, $FeVMoO_7$ and $Fe_4V_2Mo_3O_{20}$ 148

Vyzulin, S.A., A.E. Rosenson and S.A. Sheh
The spectrum of the damped MSSW in the ferrite film 151

Vyzulin, S.A., N.I. Vyrodov and V.V. Zaporozhets
Investigation of the beyond-cutoff phenomena in the ferrite waveguides with magnetostatic waves 153

Novák, P., J. Kub, M. Maryško, A.Yu. Kazimirov, A.N. Sosphenov and M.V. Kovalchuk
Site preferences in Bi:YIG film determined by the X-ray standing wave method 155

Anshakov, A.V., A.N. Sigayev and A.A. Stashkevich
Thermal deflection of optical waveguide modes by MSW in a YIG film 157

Maryško, M.
Influence of GGG substrate on FMR and magnetostatic wave propagation 159

Betancourt, L., M. Chourio and V. Sagredo
Optical and magnetic properties of the semiconductor spinel $Cd_{1-x}Mn_xIn_2S_4$ 162

Nedkov, I. and A. Petkov
LiNb-substituted M-type structure Ba hexaferrites 165

Mehandjiev, D.R. and I.D. Dragieva
Effect of the globule size on the interglobular space formation in ferromagnetic chain powders 167

Vincent, H., B. Sugg, V. Lefez, B Bochu, D. Boursier and P. Chaudouet
Crystal growth, X-ray and magnetic studies of planar anisotropy *M*-hexa-ferrites $BaF_{12-2x}Ir_xMe_xO_{19}$ (Me = Zn, Co) 170

Grünberger, W., B. Springmann, M. Brusberg, M. Schmidt and R. Jahnke
Rubber bonded ferrite layer as a microwave resonant absorber in a frequency range from 3 up to 16 GHz 173

Polzikova, N.I. and A.O. Raevskii
Nonlinear effects accompanying magnetostatic wave propagation in the ferrite–high temperature superconductor structure 175

Lanotte, L. and P. Matteazzi
Magnetic behaviour of $Fe_{1-x}Cu_x$ powders after milling 178

*Papers presented at the Conference, but not published in these Proceedings*

Rosenson, A.E. and S.A. Vysulin
The spin wave pump for quantum generation

Balcells, L., A. Labarta, S. Charles and J. Tajeda
Magnetic properties of ferrofluids

Vashkovsky, A.V., V.I. Zubkov, E.H. Lock and V.I. Shcheglov
Magnetostatic surface waves refraction at a boundary dividing ferrite and ferrite–dielectric–metal media

Vashkovsky, A., V.I. Zubkov, B.M. Lebed, E.H. Lock, V.I. Shcheglov and S.V. Yakovlev
Magnetostatic surface wave dispersion in a layered ferrite–high-temperature-superconductor structure

**Chapter 4. Magnetic thin films, multilayers and surfaces**

Tejada, J., F. Badia, B. Martinez and J.M. Ruiz
Magnetic properties of compositionally modulated thin films of rare earth and transition metal (*Invited paper*) 181

Maciejewski, W.
Spin wave resonance approach to the Kirkendall effect in magnetic multilayer films 187

Gouzerh, J., A.A. Stashkevich, N.G. Kovshikov, V.V. Matyushev and J.M. Desvignes
Reflection of magnetostatic waves from a laser-annealed grating in a garnet film 189

Quak, D.
Quasi-static field calculations in a layered, anisotropic structure 191

Nurgaliev, T.C. and S.I. Miteva
The properties of magnetoacoustic waves in tangentially magnetized sandwich structure 193

Šimšová, J., V. Kamberský, R. Gemperle, J.C. Lodder, W.J.M.A. Geerts, B. Otten and P. ten Berge
Domain structure of Co–Cr films on minor loops 196

Cebollada, F., J.M. Gonzalez, M. Vazquez, M. Aguilar, M. Pancorbo and E. Anguiano
Correlation between high field magnetization measurements and STM imaging of the atomic structure in amorphous $Co_{100-x}P_x$ 199

Raasch, D.
Wall energies of amorphous GdTb–FeCo single and exchange coupled double-layer films 202

Krishnan, R., V. Cagan, M. Tessier and S. Visnovsky
Magnetic and magneto-optical studies in Fe/AlN multilayers 205

Otto, T., T. Stobiecki, F. Stobiecki and K. Röll
The influence of grain boundary diffusion on the amorphization of multilayered Fe/Zr films 207

Kraegermann, S., F. Stobiecki, T. Stobiecki and K. Röll
Amorphization reactions in multilayered thin Fe/Zr films studied by magnetic, X-ray and DSC measurements 209

Stobiecki, T., P. Kossacki and H. Szymczak
Sign reversal of the Hall coefficient in amorphous Co–Zr thin films 211

Kisielewski, M., O. Lichtchenko and A. Maziewski
Self-biasing effect based on mixed magnetic anisotropy idea 213

Spörl, K. and D. Weller
Influence of annealing on structure and magnetic anisotropy of Au/Co multilayers 217

Zuberek, R., H. Szymczak, R. Krishnan. H.O. Gupta, C. Sella and M. Kaabouchi
Magnetostriction of sputtered Co/C multilayers 219

*Paper presented at the Conference, but not published in these Proceedings*
Gribkova, Yu. V. and M.I. Kaganov
Qualitative analysis of magnetostatic excitations of a ferromagnetic plate in a perpendicular magnetic field

**Chapter 5. Magneto-optic materials; particulate magnetic recording media; bubbles and other solid state memory devices**

Berkov, D.V.
The orientation kinetics of real magnetic particle assemblies 221

Deschanvres, J.L., M. Langlet. B. Bochu and J.C. Joubert
Growth of Bi-substituted YIG thin films for magneto-optic applications 224

Grusková, A., J. Sláma, M. Michalíková, J. Lipka, I. Tóth and P. Kaboš
Preparation of substituted barium ferrite powders 227

Müller, R.
Preparation of W-type hexaferrite particles by the glass crystallization method 230

Šimša, Z., L. Štichauer, J. Koláček, A.J. Pointon and C. Turner
Faraday rotation in $BaFe_{11}Co_{0.5}Ti_{0.5}O_{19}$ 233

Orth, Th., U. Netzelmann, B. Dean, A. Hoare, O. von Geisau, J. Pelzl, R.W. Chantrell, R. Veitch and H. Jakusch
Ferromagnetic resonance investigations of particulate magnetic recording tapes 235

Müller, R., H. Pfeiffer and W. Schüppel
Variation of the magnetic properties of barium ferrite powders by heat treatment 237

Mouchot, J., B. Bechevet, D. Challeton, M.F. Armand, B. Rolland B. Valon and J.B. Albertini
Thermomagnetic recording in ferrimagnetic garnets 239

Kučera, M.
Magneto-optics of $Ce^{3+}$ doped garnets 242

Liu, B., W.W. Clegg and C.D. Wright
The effect of bulk hysteresis loop on the recording performance of magneto-optic films 245

Klingelhöfer, P., L. Marosi and E. Schwab
Microstructure of $\gamma$-$Fe_2O_3$ particles determined by X-ray line broadening of orientated samples 248

Matar, S., P. Mohn, G. Demazeau and K. Schwarz
The electronic and magnetic properties of $NiFe_3N$ 251

Gontarz, R. and T. Lucinski
On magnetic anisotropy in sputtered Co–Pd alloy films 253

*Papers presented at the Conference, but not published in these Proceedings*

Zeper, W.B., H.W. van Kesteren and P.F. Garcia
Progress in magnetic multilayers for higher density magneto-optical recording

Görnert, P. and E. Sinn
Preparation and properties of Ba–ferrite particle assemblies

Pfeiffer, H. and W. Schüppel
Magnetic properties of barium ferrite powders

**Chapter 6. Magnetic measuring technique; application of numerical techniques, field calculation and design**

Guyot, M. and V. Cagan
The acoustic emission along the hysteresis loop of various ferro and ferrimagnets (*Invited paper*) 256

Hartmann, U., T. Göddenhenrich and C. Heiden
Magnetic force microscopy: current status and future trends (*Invited paper*) 263

Hanitsch, R.
Design and performance of electromagnetic machines based on Nd–Fe–B magnets (*Invited paper*) 271

Juszczyk, S.
Pulsed fields for measurements of $H_{c2}$ in high-$T_c$ superconductors 276

Kunze, W. and H. Kuß
FEM for computer-aided design of electrical machines and devices 279

De Rosa, L., A. Geri and G.M. Veca
Three-dimensional magnetic field analysis in an MHD device using a discrete element model 283

Hameyer, K. and R. Hanitsch
Some aspects of the design of rotating actuators 286

Bölter, F.-Th. and A. Binner
Adaptive grid generation for the finite element method 289

Pankhurst, Q.A.
Measurement of magnetic anisotropy in ferrimagnetic powders by applied field Mössbauer spectroscopy 291

Madai, E. and A. Tolke
The field of rigid magnetized bars – a complex calculation 293

Basa, K.
Power loss measurements in amorphous soft magnetic cores 296

Kemper, M., U. Reisewitz and C. Heiden
Approach to intrinsic virgin magnetization curves of Nd–Fe–B magnets using a feedback-controlled VSM 299

Jurisch, F. and N. Hildebrand
The anisometer – a sensitive measuring device for testing electrical steels 301

Grössinger, R., M. Katter, G. Badurek and R. Krewenka
The construction of a highly sensitive pulsed-field magenetometer for measuring hard magnetic materials 304

**Chapter 7. Permanent magnetic materials; permanent magnets, devices and application; coercivity and magnetic reversal mechanisms in hard magnetic materials**

Beseničar, S. and M. Drofenik
High coercivity Sr hexaferrites 307

Coey, J.M.D., Hong Sun and D.P.F. Hurley
Intrinsic magnetic properties of new rare-earth iron intermetallic series (*Invited paper*) 310

Blank, R.
What determines the demagnetization in Nd–Fe–B magnets? (*Invited paper*) 317

Christoph, V. and K.-H. Müller
Calculation of magnetization curves of permanent magnet materials (*Invited paper*) 323

Tenaud, Ph., H. Lemaire and F. Vial
Recent improvements in NdFeB sintered magnets (*Invited paper*) 328

Marusi, G., L. Pareti and M. Solzi
Magnetic properties of some rhombohedral RE–Co compounds 333

Pelissier, S., R. Saldanha, J.-P. Yonnet and J.-L. Coulomb
Optimization of a linear permanent magnet actuator 335

Rodewald, W. and B. Wall
Temperature stability and magnetizing behaviour of sintered Nd–Dy–Fe–Co–Mo–Al–B–magnets 338

Kowalczyk, A., P. Stefański and A. Wrzeciono
Ordering phenomena in $(Nd_{1-x}Y_x)_2Fe_{14-y}Cr_yB$ alloys 341

Fernengel, W., B. Wall and W. Rodewald
Measurement of the coercivity ${}_JH_c$ of RE–TM-magnets by the SPD technique 343

Boockmann, K., M. Liehr, W. Rodewald, E. Salzborn, M. Schlapp and B. Wall
Effect of γ-radiation on Sm–Co- and Nd–Dy–Fe–B-magnets 345

Le Breton, J.M. and J. Teillet
Mössbauer and X-ray study of NdFeB type permanent magnets oxidation: effect of Al and Nb addition 347

Kou, X.C., R. Grössinger, H. Müller and K.H.J. Buschow
Anomalous 3d anisotropy of $R_2Fe_{14}C$ and $R_2Fe_{14}B$ compounds 349

Amri, N., J. Delamare, D. Lemarchand and P. Vigier
Microstructural and thermomagnetic investigation of rapidly solidified Nd–Fe(–Al) eutectic alloys 352

Bozukov, L., A. Apostolov and M. Stoytchev
A change in magnetic and structural properties of the $CeFe_{11}Ti$ intermetallic compound upon hydrogen absorption 355

Saje, B., J. Holc and S. Beseničar
The sequence of fracture processes in hydrogen-decrepitated $Nd_{16-x}Dy_xFe_{76}B_8$ alloy 357

Manaf, A., R.A. Buckley, H.A. Davies and M. Leonowicz
Enhanced magnetic properties in rapidly solidified Nd–Fe–B based alloys 360

Pastushenkov, J., A. Forkl and H. Kronmüller
Magnetic domain structure of sintered Fe–Nd–B type permanent magnets and magnetostatic grain interaction 363

Forkl, A., J. Pastushenkov, K. Maki and H. Kronmüller
Investigation of the angular dependence of critical fields in RE–Fe–B sintered magnets 367

Bras, J., K. Biyadi, M. Fagot, J. Degauque, F. Vial and P. Tenaud
Microstructure of NdFeB based sintered magnets with additions of Dy, Co, Al and V 369

Lázaro, F.J., L.M. Garćia, F. Luis, C. Rillo, J. Bartolomé, D. Fruchart, O. Isnard, S. Miraglia, S. Obbade and K.H.J. Buschow
Systematic magnetic ac susceptibility study of $(RE)_2Fe_{14}BH_x$ and $(RE)_2Fe_{14}CH_x$ 372

Müller, K.-H., D. Eckert and A. Handstein
Diminution of permanent magnet properties of polymer bonded $Nd_4Fe_{77}B_{19}$ magnets 375

Handstein, A., K.-H. Müller, R. Grössinger, H.R. Kirchmayr and R. Krewenka
Influence of particle size on the properties of polymer bonded Nd–Fe–B magnets 377

Nothnagel, P., K.-H. Müller, D. Eckert and A. Handstein
The influence of particle size on the coercivity of sintered NdFeB magnets 379

Handstein, A., K.-H. Müller, D. Eckert and P. Nothnagel
The dip in the magnetization curves of sintered Nd–Fe–B magnets with different degrees of texture 382

Eckert, D., P. Nothnagel, K.-H. Müller and A. Handstein
The influence of texture on the magnetiztion behavior of sintered Nd–Fe–B magnets 385

Elk, K., L. Jahn and R. Scholl
Characteristics and angular dependence of permanent magnetic coercivity 387

Jahn, L., R. Scholl and D. Eckert
Vibrating sample vector magnetometer coils 389

Radwański, R.J., F.R. de Boer, X.P. Zhong, F.M. Yang, J.Y. Li, T. Kohashi, M. Ono, M. Date and A. Yamagishi
High-field magnetic transition in $Er_2Fe_{14}B$ 392

Moolenaar, A.A., P.C.M. Gubbens, G.J. Boender, T.H. Jacobs and K.H.J. Buschow
Magnetic properties of $Er_2Fe_{17}C$ and $Er_2Fe_{17}N_{2.7}$ studied with $^{57}Fe$ and $^{166}Er$ Mössbauer spectroscopy 395

González, J.M., F. Cebollada, V.E. Martin, M. Leonato, D. Koeler and M. Seeger
Hysteretic behaviour of rapidly solidified $Nd_{15-x}Dy_xFe_{76}B_9$ 397

Drzazga, Z., K. Białas-Borgieł and W. Borgieł
Effective magnetic anisotropy constant for B-substituted $RCo_5$ (R = Y, Gd) compounds 399

Figiel, H., N. Spridis, P.C. Riedi and R. Graham
Samarium NMR in the $Sm_2Co_{17}$ compound 401

Rivas, J., M.A. López-Quintela, R.J. Duro, G. Barault and J.M. Greneche
Magnetic study of fine and ultrafine particles of amorphous Nd–Fe–B oxides 403

Rivas, J., R.J. Duro, M. Gayoso, C. Rodriquez and S. Castro
Magnetization relaxation in barium hexaferrite powders obtained using the liquid mix technique 405

Bartolomé, J., F. Luis, D. Fruchart, O. Isnard, S. Miraglia, S. Obbade and K.H.J. Buschow
The effect of maximum hydrogenation on the $RE_2Fe_{14}X$, X = B,C compounds 411

Luis, F., B. Maté, C. Piqué, R. Burriel, J. Bartolomé and K.H.J. Buschow
A thermodynamic study of the $R_2Fe_{14}X$; X = B, C at the Curie temperature 414

Schrey, P. and M. Velicescu
Influence of Sn additions on the magnetic and microstructural properties of Nd–Dy–Fe–B magnets 417

Siberchicot, B. and S. Matar
Lattice spacing dependence of the magnetization of the nitride $Mn_4N$ 419

Wysłocki, J.J.
Torque curves in the anisotropic Fe–Al–C(Cu) permanent magnet with different Cu concentrations 421

Kayzel, F.E., R. Verhoef, S.Q. Ji, J.J.M. Franse, R.J. Radwański, S. Hoch and H. Kronmüller
High-field magnetic studies of pseudoternary $Nd_2Fe_{14}B$ -based compounds 424

Binner, A., J. Schneider and C. Stiller
Effect of structural features in NdFeB-based magnets on the demagnetization process 427

*Papers presented at the Conference, but not published in these Proceedings*

Schultz, L., K. Schnitzke, J. Wecker and M. Katter
Coercivity in mechanically alloyed $Sm_2Fe_{17}N_x$ magnets

Harris, I.R., P.J. McGuiness and X.J. Zhang
The HDDR process in Nd–Fe–B alloys – microstructure and magnetic properties

Paoluzi, A., G. Turilli and M. Lucenti
The effect of Al surface doping in Ba–M hexaferrite powders

Katter, M., J. Wecker and L. Schultz
Intrinsic magnetic properties of $(Sm, Nd)_2(Fe, Co)_{17}$-nitrides

Tsurin, V.A., A.E. Ermakov, V.A. Barinov, G. Bocelli, F. Leccabue, R. Panizzieri and B.E. Watts
Magneto-structural study of $BaFe_{12}O_{19}$ deformed powders prepared by mechanical grinding

Leccabue, F., B.E. Watts, G. Bocelli, G. Calestani, L. Dimesso, A. Deriu and J.L. Sánchez
Phase formation and properties of rapidly solidified Dy–Fe–(B,C) system

Andreev, A.V.
Spontaneous magnetostriction of 4f–3d intermetallics

Richter, M. and H. Eschrig
Intrinsic magnetic properties of SmTM5 compounds from first principles

Zawadzki, J., R. Szymczak, D.H. Manh and M. Slepowronski
Domain wall energy in $YFe_{10}T_2$ (T = Si,Cr) compounds

Schneider, J. and G. Stiller
The influence of structural features on the coercive force in $Fe_3B$ with additions of Nd

Author index to volume 101 431

Subject index to volume 101 439